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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,565	08/01/2003	Atushi Honda	81868.0101	2597

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EXAMINER

KIM, CHONG HWA

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/632,565

Applicant(s)

HONDA ET AL.

Examiner

Chong H. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 8-11 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 12-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/1/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-7 and 12-19, in the reply filed on Apr 3, 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 8-11 and 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention drawn to the method of manufacturing an automatic balancing device, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on Apr 3, 2006.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5-7, and 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Han, U.S. Patent 6,731,588 B2 in view of Kotone et al., U.S. Patent 3,891,470.

Han shows, in Fig. 24, an automatic balancing device comprising: a hollow housing case body 120, 121 rotated with a rotary body 140 and having an annular space 150 formed inside of the hollow housing case body; a plurality of balance balls 170 accommodated in the annular

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space of the hollow housing case body in a freely movable manner so as to cancel an imbalance of the rotary body; a film of a rust preventing agent (an antioxidant material as described in col. 15, lines 1-7) formed on a surface of the plurality of balance balls or on a surface 121 on which the plurality of balance balls move (see col. 15, lines 17-24); wherein the annular space of the hollow housing case body in which the balance balls are accommodated is formed in a sealed state and the rust preventing agent is contained in the sealed annular space; wherein the hollow housing case body includes an upper ring-shaped annular member 120 or 121; wherein the upper ring shaped annular member has a cup shape; wherein the upper ring-shaped annular member is made of a resin material (see col. 15, lines 22-24 and col. 8, lines 49-58); wherein a height and width of the hollow housing case body is larger than a height and width of the plurality of balance balls; and wherein the balance balls are formed of chrome steel (see col. 14, lines 60-67 and col. 10, lines 55-58); but fails to show the rust preventing agent being volatile.

Kotone et al. discloses, in col. 1, lines 37-44, that a coated volatile corrosion inhibitor, such as diisopropylamine nitrite, can be applied to iron or steel materials.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the coated antioxidant material, such as plated nickel, of Han with the volatile corrosion inhibitor as taught by Kotone et al. in order to provide a more inexpensive way to prevent corrosion so that the cost of making the device is reduced.

5. Claims 1, 4-6, and 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi, U.S. Patent 6,525,441 B2 in view of Han, in view of Kotone, and in view of Shiraki et al., U.S. Patent 5,401,571.

Yamaguchi shows, in Fig. 3, an automatic balancing device comprising: a hollow housing case body 11 rotated with a rotary body 2 and having an annular space formed inside of the hollow housing case body; a plurality of balance balls B accommodated in the annular space of the hollow housing case body in a freely movable manner so as to cancel an imbalance of the rotary body; a magnet body 44 disposed in a space formed in the hollow housing case body, and the balance balls are respectively formed with steel (col. 3, line 56) having a magnetism, the magnet body exerts magnetic action so that the steel balls can be repulsive to each other, the space in which the magnet body is disposed and the annular space in which the balance balls are accommodated are in communication with each other; wherein the hollow housing case body includes an upper ring-shaped annular member; wherein the upper ring shaped annular member has a cup shape; wherein a height and width of the hollow housing case body is larger than a height and width of the plurality of balance balls; but fails to show a volatile rust preventing agent formed either on the balance balls or on the surface of the case body, and impregnated on the magnetic body; and the upper ring shaped member being made of a resin material.

As to the matter of the volatile rust preventing agent formed either on the balance balls or on the surface of the case body, Han teaches, as discussed above in the rejection of claim 1, that a film of a rust preventing agent (an antioxidant material as described in col. 15, lines 1-7) can be formed on a surface of the plurality of balance balls or on a surface 121 on which the plurality of balance balls move (see col. 15, lines 17-24).

Furthermore, Kotone teaches that it is well known to apply volatile corrosion inhibitors on iron and steel materials.

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It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the volatile corrosion inhibitor on the balance balls or the inner surface of the housing of Yamaguchi as taught by Han and Kotone in order to prevent the balance balls from erratically moving in the case due to oxidation and corrosion of the balls, as described by Han, in col. 15, lines 1-7.

As to the matter of the volatile rust preventing agent being impregnated in the magnetic body, Shiraki et al. teaches, in col. 7, lines 31-35 and col. 8, lines 22-33, a magnetic material may contain a volatile rust preventing agent.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the rust preventing agent as taught by Shiraki et al. in the magnetic body of Yamaguchi in order to prevent rusting or corrosion so that the device may last longer.

As to the matter of the material of the casing, it would have been obvious to make the balancer housing of Yamaguchi with resin material since the Examiner takes Official Notice of the fact that utilizing resin material such as plastic to form a casing is well known practice in the art of balancer and the selection of any known material to house the balance balls would be within the level of ordinary skill in the art.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Automatic balancing devices having magnet and balls.

Kikuchi et al., U.S. Patent 6,479,912 B2

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Ikuta et al., U.S. Patent 6,005,749

Sohn et al., U.S. Patent 6,065,368

Miyamoto et al., U.S. Patent 6,205,110 B1

Yoshimura et al., U.S. Patent 6,477,133 B1

Kikuchi et al., U.S. Patent 6,492,750 B2

Honda, U.S. Pub No. 2002/0184965 A1

JP Pub No. 11341777A

Volatile corrosion inhibitors.

Barlett, U.S. Patent 5,032,318

Rubin, U.S. Patent 5,064,547

Magnets being treated with anti-rust treatments.

Shiozawa, U.S. Patent 4,943,748

Fremerey, U.S. Patent 5,126,610

JP Pub No. 06013214A

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chong H. Kim whose telephone number is (571) 272-7108. The examiner can normally be reached on Monday - Friday; 6:00 - 2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

chk

June 5, 2006



CHONG H. KIM
PRIMARY EXAMINER